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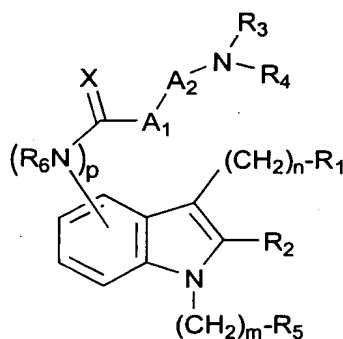
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## WHAT IS CLAIMED IS:

1. A compound of the following formula (I):

5



(I)

10 wherein:

A<sub>1</sub> and A<sub>2</sub> are each independently a D- or L-amino acid selected from the group consisting of alanine, β-alanine, arginine, homoarginine, cyclohexylalanine, citrulline, cysteine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), 2,4-diaminobutyric acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), 2,3-diaminopropionic acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), glutamine, glycine, indanylglycine, lysine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), valine, methionine, proline, serine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), homoserine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), tetrahydroisoquinoline-3-COOH, threonine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), ornithine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, heteroarylalanine, naphthylalanine, homophenylalanine, histidine, tryptophan, tyrosine, arylglycine, heteroarylglycine, aryl-β-alanine, and heteroaryl-β-alanine wherein the

- substituents on the aromatic amino acid are independently selected from one or more of halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

- R<sub>1</sub> is selected from amino, C<sub>1</sub>-C<sub>8</sub> alkylamino, C<sub>1</sub>-C<sub>8</sub> dialkylamino, arylamino, arC<sub>1</sub>-C<sub>8</sub> alkylamino, C<sub>3</sub>-C<sub>8</sub> cycloalkylamino, heteroalkylC<sub>1</sub>-C<sub>8</sub> alkylamino, heteroalkylC<sub>1</sub>-C<sub>8</sub> alkyl-N-methylamino, C<sub>1</sub>-C<sub>8</sub> dialkylaminoC<sub>1</sub>-C<sub>8</sub> alkylamino, -N(C<sub>1</sub>-C<sub>8</sub>alkyl)-C<sub>1</sub>-C<sub>8</sub> alkyl-N(C<sub>1</sub>-C<sub>8</sub>alkyl)<sub>2</sub>, N(C<sub>1</sub>-C<sub>8</sub> alkyl)(C<sub>1</sub>-C<sub>8</sub> alkenyl), -N(C<sub>1</sub>-C<sub>8</sub>alkyl)(C<sub>3</sub>-C<sub>8</sub>cycloalkyl), heteroalkyl or substituted heteroalkyl wherein the substituent on the heteroalkyl is selected from oxo, amino, C<sub>1</sub>-C<sub>8</sub> alkoxyC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkylamino or C<sub>1</sub>-C<sub>8</sub> dialkylamino;

- R<sub>2</sub> is selected from hydrogen, halogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>1</sub>-C<sub>8</sub> alkenyl, C<sub>1</sub>-C<sub>8</sub> alkynyl, arC<sub>1</sub>-C<sub>8</sub> alkyl, aryl or heteroaryl;

- R<sub>3</sub> and R<sub>4</sub> are each independently selected from hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkylC<sub>1</sub>-C<sub>8</sub> alkyl, aryl, heteroalkyl, substituted heteroalkyl (wherein the substituent on the heteroalkyl is one or more substituents independently selected from C<sub>1</sub>-C<sub>8</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>8</sub> alkyl, or C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl), heteroalkylC<sub>1</sub>-C<sub>8</sub> alkyl, indanyl, acetamidinoC<sub>1</sub>-C<sub>8</sub> alkyl, aminoC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkylaminoC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> dialkylaminoC<sub>1</sub>-C<sub>8</sub> alkyl, unsubstituted or substituted heteroarylC<sub>1</sub>-C<sub>8</sub> alkyl, or unsubstituted or substituted arC<sub>1</sub>-C<sub>8</sub> alkyl, wherein the substituent on the aralkyl or heteroarylalkyl group is one or more substituents independently selected from halogen, nitro, amino, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, hydroxy, cyano, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>1</sub>-C<sub>8</sub> alkoxycarbonyl, hydroxyC<sub>1</sub>-C<sub>8</sub> alkyl or aminosulfonyl; or

- R<sub>3</sub> and R<sub>4</sub>, together with the nitrogen to which they are attached, alternatively form an unsubstituted or substituted heteroalkyl group selected from piperidinyl, piperazinyl, morpholinyl or pyrrolidinyl, wherein the substituent

is one or more substituents independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, carbonyl or C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl;

5 R<sub>5</sub> is selected from unsubstituted or substituted aryl, arC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, or heteroaryl, where the substituents on the aryl, arC<sub>1</sub>-C<sub>8</sub> alkyl, cycloalkyl or heteroaryl group are independently selected from one or more of halogen, nitro, amino, cyano, hydroxyalkyl, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, carbonyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy or C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl;

10

R<sub>6</sub> is selected from hydrogen or C<sub>1</sub>-C<sub>8</sub> alkyl,

X is oxygen or sulfur;

15

m is an integer selected from 0, 1, 2 or 3;

n is an integer selected from 1 or 2; and

p is an integer selected from 0 or 1;

and pharmaceutically acceptable salts thereof.

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2. The compound of Claim 1, wherein:

A<sub>1</sub> and A<sub>2</sub> are each independently an L-amino acid selected from the group consisting of alanine, β-alanine, arginine, homoarginine, 25 cyclohexylalanine, citrulline, cysteine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), 2,4-diaminobutyric acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), 2,3-diaminopropionic acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), glutamine, glycine, indanylglycine lysine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, 30 aroyl, MeC(NH)-), valine, methionine, proline, serine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), homoserine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), tetrahydroisoquinoline-3-COOH, threonine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), ornithine

(optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, heteroarylalanine, naphthylalanine, homophenylalanine, histidine, tryptophan, tyrosine, arylglycine, heteroarylglycine, aryl-β-alanine, and heteroaryl-β-alanine wherein the substituents on the aromatic amino acid are independently selected from one or more of halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

R<sub>1</sub> is selected from amino, C<sub>1</sub>-C<sub>6</sub> alkylamino, C<sub>1</sub>-C<sub>6</sub> dialkylamino, arylamino, arC<sub>1</sub>-C<sub>6</sub> alkylamino, heteroalkylC<sub>1</sub>-C<sub>6</sub> alkylamino, -N(C<sub>1</sub>-C<sub>6</sub> alkyl)-C<sub>1</sub>-C<sub>6</sub> alkyl-N(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, heteroalkyl or substituted heteroalkyl wherein the substituent on the heteroalkyl is selected from oxo, amino, C<sub>1</sub>-C<sub>6</sub> alkoxy C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkylamino or C<sub>1</sub>-C<sub>6</sub> dialkylamino;

R<sub>2</sub> is selected from hydrogen, halogen or phenyl;

R<sub>3</sub> is selected from hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sub>4</sub> is selected from C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkylC<sub>1</sub>-C<sub>6</sub> alkyl, aryl, heteroarylC<sub>1</sub>-C<sub>6</sub> alkyl, substituted heteroarylC<sub>1</sub>-C<sub>6</sub> alkyl wherein the substituent is C<sub>1</sub>-C<sub>4</sub> alkyl, heteroalkyl, heteroalkylC<sub>1</sub>-C<sub>6</sub> alkyl, indanyl, acetamidinoC<sub>1</sub>-C<sub>6</sub> alkyl, aminoC<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkylaminoC<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> dialkylaminoC<sub>1</sub>-C<sub>6</sub> alkyl, arC<sub>1</sub>-C<sub>8</sub> alkyl, substituted arC<sub>1</sub>-C<sub>8</sub> alkyl wherein the substituent on the aralkyl group is one to five substituents independently selected from halogen, nitro, amino, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, hydroxyalkyl or aminosulfonyl; or

R<sub>3</sub> and R<sub>4</sub>, together with the nitrogen to which they are attached, alternatively form an unsubstituted or substituted heteroalkyl group selected

from piperidinyl, piperazinyl or pyrrolidinyl, wherein the substituent is independently one or two substituents selected from C<sub>1</sub>-C<sub>6</sub> alkyl;

5 R<sub>5</sub> is selected from unsubstituted or substituted aryl, arC<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl or heteroaryl, where the substituents on the aryl, aralkyl, cycloalkyl or heteroaryl group are independently selected from one to three substituents selected from halogen, cyano, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy or C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl;

10 R<sub>6</sub> is hydrogen; and

X is oxygen; and

p is 1;

15

and pharmaceutically acceptable salts thereof.

3. The compound of Claim 2, wherein:

20 A<sub>1</sub> is an L-amino acid selected from the group consisting of alanine, arginine, cyclohexylalanine, glycine, proline, tetrahydroisoquinoline-3-COOH, and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, naphthylalanine, homophenylalanine, and O-methyl tyrosine, wherein the substituents on the aromatic amino acid are  
25 independently one to five substituents selected from halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

30

A<sub>2</sub> is an L-amino acid selected from the group consisting of alanine, β-alanine, arginine, citrulline, cysteine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), 2,4-diaminobutyric acid (optionally substituted with acyl,

C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), 2,3- diaminopropionic acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), glutamine, glycine, lysine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), valine, methionine, serine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), homoserine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), threonine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), ornithine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, heteroarylalanine, and histidine, wherein the substituents of the aromatic amino acid are independently one to five substituents selected from halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

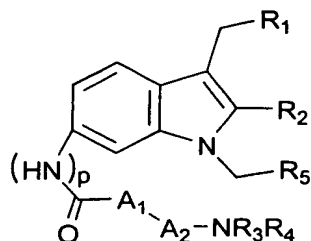
R<sub>2</sub> is selected from hydrogen, chlorine or phenyl;

R<sub>3</sub> is selected from hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl; and

m and n are both 1;

and pharmaceutically acceptable salts thereof.

4. The compound of Claim 3 of the formula:



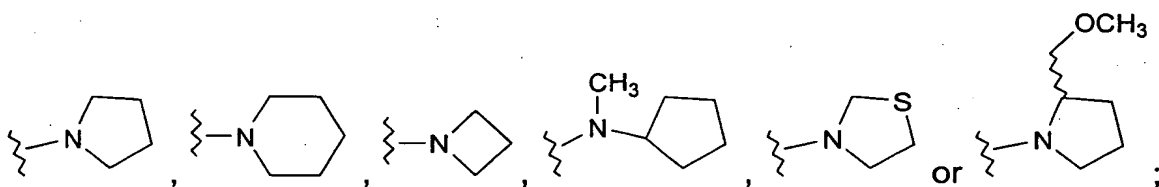
wherein:

A<sub>1</sub> is an L-amino acid selected from the group consisting of alanine, arginine, cyclohexylalanine, proline, tetrahydroisoquinoline-3-COOH, and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, naphthylalanine, homophenylalanine, and O-methyl tyrosine, wherein the substituents on the aromatic amino acid are independently one to two substituents selected from halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

A<sub>2</sub> is an L-amino acid selected from the group consisting of alanine, β-alanine, arginine, citrulline, cysteine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), 2,4-diaminobutyric acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), 2,3-diaminopropionic acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), glutamine, glycine, lysine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), valine, methionine, serine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), homoserine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), threonine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), ornithine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, heteroarylalanine, and histidine, wherein the substituents on the aromatic amino acid are independently one to two substituents selected from halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

R<sub>1</sub> is selected from diethylamino, di-(*n*-propyl)amino,





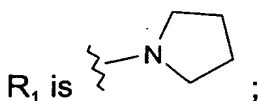
$R_3$  is selected from hydrogen, methyl or ethyl;

- 5  $R_4$  is selected from 2-indanyl, phenyl, cyclohexylmethyl, cyclopentyl, pyridylmethyl, furanylmethyl, 2-(4-methyl-furanyl)methyl, thienylmethyl, diphenylmethyl, 4-imidazolylethyl, 2-(4-N-methyl)imidazolylethyl, *n*-octyl, phenyl-*n*-propyl, aminoethyl, aminopropyl, amino-*n*-pentyl, dimethylaminoethyl, 4-aminophenylsulfonylaminomethyl, acetamidineylethyl, 2-N-pyrrolidinylethyl,
- 10 N-ethoxycarbonylpiperidinyl, unsubstituted or substituted phenylethyl and unsubstituted or substituted benzyl wherein the substituents on the phenylethyl or benzyl are independently one or two substituents selected from methyl, fluorine, chlorine, nitro, methoxy, methoxycarbonyl or hydroxymethyl; or
- 15  $R_3$  and  $R_4$ , together with the nitrogen to which they are attached, alternatively form a heteroalkyl group selected from piperidinyl or 4-(N-methyl)piperazinyl; and

- $R_5$  is selected from cyclohexyl, 2-naphthyl, phenylethyl, 4-fluorophenylethyl, or unsubstituted or substituted phenyl, where the substituents on the phenyl are independently selected from one to two substituents selected from fluorine, chlorine, iodine, methyl, cyano or trifluoromethyl;
- 20

- 25 and pharmaceutically acceptable salts thereof.

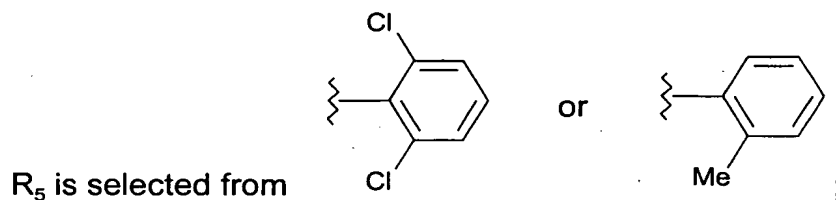
5. The compound of Claim 4, wherein:



and pharmaceutically acceptable salts thereof.

6. The compound of Claim 5, wherein:

5



and pharmaceutically acceptable salts thereof.

10 7. The compound of Claim 6, wherein:

A<sub>1</sub> is selected from 3,4-Difluorophenylalanine or 4-Chlorophenylalanine;

A<sub>2</sub> is selected from 2,4-Diaminobutyric acid or 4-Pyridylalanine;

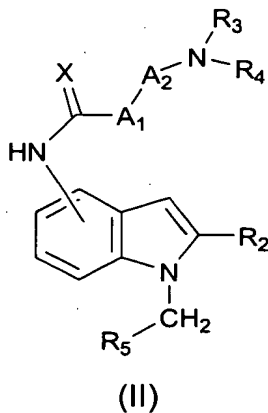
R<sub>3</sub> is hydrogen; and

15 R<sub>4</sub> is selected from benzyl or 2-aminoethyl;

and pharmaceutically acceptable salts thereof.

8. A compound of the formula (II):

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wherein:

A<sub>1</sub> and A<sub>2</sub> are each independently a D- or L-amino acid selected from the group consisting of alanine, β-alanine, arginine, homoarginine, cyclohexylalanine, citrulline, cysteine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), 2,4-diaminobutyric acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), 2,3-diaminopropionic acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), glutamine, glycine, indanylglycine, lysine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), valine, methionine, proline, serine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), homoserine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), tetrahydroisoquinoline-3-COOH, threonine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), ornithine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), and an unsubstituted or substituted aromatic amino acid selected from the group consisting of phenylalanine, heteroarylalanine, naphthylalanine, homophenylalanine, histidine, tryptophan, tyrosine, arylglycine, heteroarylglycine, aryl-β-alanine, and heteroaryl-β-alanine, wherein the substituents on the aromatic amino acid are independently selected from one or more of halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl, amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

R<sub>2</sub> is selected from hydrogen, halogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>1</sub>-C<sub>8</sub> alkenyl, C<sub>1</sub>-C<sub>8</sub> alkynyl, arC<sub>1</sub>-C<sub>8</sub> alkyl, aryl or heteroaryl;

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R<sub>3</sub> and R<sub>4</sub> are each independently selected from hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkylC<sub>1</sub>-C<sub>8</sub> alkyl, aryl, heteroalkyl, substituted heteroalkyl (wherein the substituent on the heteroalkyl is one or more substituents independently selected from C<sub>1</sub>-C<sub>8</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>8</sub> alkyl, or C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl), heteroalkylC<sub>1</sub>-C<sub>8</sub> alkyl, indanyl, acetamidinoC<sub>1</sub>-C<sub>8</sub> alkyl, aminoC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkylaminoC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> dialkylaminoC<sub>1</sub>-C<sub>8</sub> alkyl, unsubstituted or substituted heteroarylC<sub>1</sub>-C<sub>8</sub> alkyl, or unsubstituted or substituted arC<sub>1</sub>-C<sub>8</sub> alkyl, wherein the substituent on the aralkyl or

heteroarylalkyl group is one or more substituents independently selected from halogen, nitro, amino, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, hydroxy, cyano, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>1</sub>-C<sub>8</sub> alkoxy carbonyl, hydroxyC<sub>1</sub>-C<sub>8</sub> alkyl or aminosulfonyl; or

5        R<sub>3</sub> and R<sub>4</sub>, together with the nitrogen to which they are attached, alternatively form an unsubstituted or substituted heteroalkyl group selected from piperidinyl, piperazinyl, morpholinyl or pyrrolidinyl, wherein the substituent is one or more substituents selected from C<sub>1</sub>-C<sub>8</sub> alkyl C<sub>1</sub>-C<sub>8</sub> alkoxy carbonyl or C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl;

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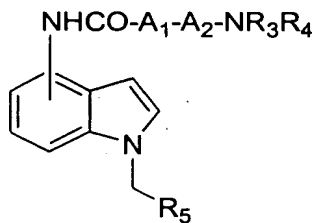
R<sub>5</sub> is selected from unsubstituted or substituted aryl, arC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, or heteroaryl, where the substituents on the aryl, arC<sub>1</sub>-C<sub>8</sub> alkyl, cycloalkyl or heteroaryl group are independently selected from one or more of halogen, nitro, amino, cyano, hydroxyalkyl, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>1</sub>-C<sub>8</sub> alkoxy carbonyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy or C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl; and,

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X is oxygen or sulfur; and salts thereof.

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9. A process for preparing a compound of the formula (III):



(III)

wherein:

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A<sub>1</sub> and A<sub>2</sub> are each independently a D- or L-amino acid selected from the group consisting of alanine, β-alanine, arginine, homoarginine, cyclohexylalanine, citrulline, cysteine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), 2,4-diaminobutyric acid (optionally substituted with acyl,

C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), 2,3-diaminopropionic acid (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, amidino, or MeC(NH)-), glutamine, glycine, indanylglycine, lysine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), valine, methionine, proline, serine (optionally substituted with

5 C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), homoserine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), tetrahydroisoquinoline-3-COOH, threonine (optionally substituted with C<sub>1</sub>-C<sub>4</sub> alkyl, aryl, or arC<sub>1</sub>-C<sub>4</sub> alkyl), ornithine (optionally substituted with acyl, C<sub>1</sub>-C<sub>4</sub> alkyl, aroyl, MeC(NH)-), and an unsubstituted or substituted aromatic amino acid selected from the group

10 consisting of phenylalanine, heteroarylalanine, naphthylalanine, homophenylalanine, histidine, tryptophan, tyrosine, arylglycine, heteroarylglycine, aryl-β-alanine, and heteroaryl-β-alanine, wherein the substituents on the aromatic amino acid are independently selected from one or more of halogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl,

15 amino, amidino, guanidino, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, cyano, aryl, heteroaryl, arC<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>2</sub>-C<sub>4</sub> alkenyl, alkynyl, or nitro;

R<sub>3</sub> and R<sub>4</sub> are each independently selected from hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl,

20 C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkylC<sub>1</sub>-C<sub>8</sub> alkyl, aryl, heteroalkyl, substituted heteroalkyl (wherein the substituent on the heteroalkyl is one or more substituents independently selected from C<sub>1</sub>-C<sub>8</sub> alkoxycarbonyl, C<sub>1</sub>-C<sub>8</sub> alkyl, or C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl), heteroalkylC<sub>1</sub>-C<sub>8</sub> alkyl, indanyl, acetamidinoC<sub>1</sub>-C<sub>8</sub> alkyl, aminoC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkylaminoC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> dialkylaminoC<sub>1</sub>-C<sub>8</sub> alkyl,

25 unsubstituted or substituted heteroarylC<sub>1</sub>-C<sub>8</sub> alkyl or unsubstituted or substituted arC<sub>1</sub>-C<sub>8</sub> alkyl, wherein the substituent on the aralkyl or heteroarylalkyl group is one or more substituents independently selected from halogen, nitro, amino, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, hydroxy, cyano, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>1</sub>-C<sub>8</sub> alkoxycarbonyl, hydroxyC<sub>1</sub>-C<sub>8</sub> alkyl or aminosulfonyl; or

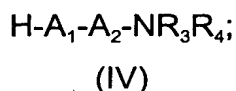
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R<sub>3</sub> and R<sub>4</sub>, together with the nitrogen to which they are attached, alternatively form an unsubstituted or substituted heteroalkyl group selected from piperidinyl, piperazinyl, morpholinyl or pyrrolidinyl, wherein the substituent

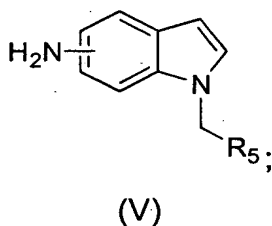
is one or more substituents independently selected from C<sub>1</sub>-C<sub>8</sub> alkyl C<sub>1</sub>-C<sub>8</sub> alkoxy, carbonyl or C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl;

R<sub>5</sub> is selected from unsubstituted or substituted aryl, arC<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, or heteroaryl, where the substituents on the aryl, arC<sub>1</sub>-C<sub>8</sub> alkyl, cycloalkyl or heteroaryl group are independently selected from one or more of halogen, nitro, amino, cyano, hydroxyalkyl, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkylcarbonyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, carbonyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkyl, fluorinated C<sub>1</sub>-C<sub>4</sub> alkoxy or C<sub>1</sub>-C<sub>4</sub> alkylsulfonyl;

comprising reacting a compound of the formula (IV):



with a compound of the formula (V):



in the presence of a phosgene equivalent to form the compound of formula (III).

10. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound of Claim 1.

11. A pharmaceutical composition made by mixing a compound of Claim 1 and a pharmaceutically acceptable carrier.

12. A process for making a pharmaceutical composition comprising mixing a compound of Claim 1 and a pharmaceutically acceptable carrier.

13. A method of treating a condition selected from the group consisting of thrombosis, restenosis, hypertension, heart failure, arrhythmia, myocardial infarction, glomerulonephritis, reocclusion following thrombolytic  
5 therapy, reocclusion following angioplasty, inflammation, angina, stroke, atherosclerosis, ischemic conditions, a vaso-occlusive disorder, neurodegenerative disorders, Angiogenesis related disorders and cancer in a subject in need thereof comprising administering to the subject a therapeutically effective amount of the compound of Claim 1.

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14. The method of Claim 13, wherein the therapeutically effective amount of the compound is from about 0.1 mg/kg/day to about 300 mg/kg/day.

15. A method of treating a condition selected from the group  
15 consisting of thrombosis, restenosis, hypertension, heart failure, arrhythmia, myocardial infarction, glomerulonephritis, reocclusion following thrombolytic therapy, reocclusion following angioplasty, inflammation, angina, stroke, atherosclerosis, ischemic conditions, a vaso-occlusive disorder, neurodegenerative disorders, Angiogenesis related disorders and cancer in a  
20 subject in need thereof comprising administering to the subject a therapeutically effective amount of the composition of Claim 10.

16. The method of Claim 15, wherein the therapeutically effective amount of the compound is from about 0.1 mg/kg/day to about 300 mg/kg/day.

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17. A method of inhibiting platelet aggregation in a subject in need thereof comprising administering to the subject a therapeutically effective amount of the compound of Claim 1.

30 18. The method of Claim 17, wherein the therapeutically effective amount of the compound is from about 0.1 mg/kg/day to about 300 mg/kg/day.

19. A method of inhibiting platelet aggregation in a subject in need thereof comprising administering to the subject a therapeutically effective amount of the composition of Claim 10.

5           20. The method of Claim 19, wherein the therapeutically effective amount of the compound is from about 0.1 mg/kg/day to about 300 mg/kg/day.

21. A method of treating a condition mediated by thrombin receptor (PAR-1) in a subject in need thereof comprising administering to the subject a  
10 therapeutically effective amount of the compound of Claim 1.

22. The method of Claim 21, wherein the therapeutically effective amount of the compound is from about 0.1 mg/kg/day to about 300 mg/kg/day.

15           23. A method of treating a condition mediated by thrombin receptor (PAR-1) in a subject in need thereof comprising administering to the subject a therapeutically effective amount of the composition of Claim 10.

20           24. The method of Claim 23, wherein the therapeutically effective amount of the compound is from about 0.1 mg/kg/day to about 300 mg/kg/day.